

AMENDMENT

In the claims

Please amend claims 1, 10, 11, 13, 16, and 17, as set forth below, cancel claims 5, 14, 21, 27 and 28, and add new claims 35-37.

1. (currently amended) An electroporation apparatus comprising:
 a catheter having at least one inflatable balloon portion;
 proximal to the at least one inflatable balloon portion, ~~an~~ at least one infusion
 opening in the catheter for introducing a composition containing a therapeutic agent into a vessel
 in a subject;

a first electrode on the catheter positioned adjacent to the infusion opening; and
 a second electrode on the catheter positioned such that the infusion opening is
 disposed between the first electrode and the second electrode, wherein the second electrode is
 spaced proximal to but spaced from the first electrode a distance that allows an electric field to
 be generated when a voltage is applied between the first and second electrodes after the catheter
 has been inserted into the vessel, wherein the electric field is sufficient in strength to
 electroporate cells in the vessel.

2. (original) An electroporation apparatus according to claim 1 further comprising an electrical
 source connected to the first and second electrodes for applying a voltage between the electrodes.

3. (original) An electroporation apparatus according to claim 1, wherein the vessel is a blood
 vessel.

4. (original) An electroporation apparatus according to claim 1, wherein the first electrode is
 formed at least in part of biologically inert material.

5-6. (canceled)

7. (original) An electroporation apparatus according to claim 1, wherein the catheter has two inflatable balloon portions.
8. (original) An electroporation apparatus according to claim 7, wherein the infusion opening is between the two inflatable balloon portions.
9. (original) An electroporation apparatus according to claim 1 or 8, wherein the first electrode is coincident with the infusion opening.
10. (currently amended) A catheter, comprising:
a first inflatable balloon portion near a distal end of the catheter;
a second inflatable balloon portion proximal to the first inflatable balloon portion,
wherein inflation of the first and second balloon portions occludes a vessel between the first and second balloon portions;
an at least one infusion opening for introducing a composition containing a therapeutic agent into a subject, wherein the at least one infusion opening is located between the first and second balloon portions;
at least one first electrode positioned proximally adjacent to or integral with the infusion opening; and
at least one second electrode on the catheter positioned ~~proximal~~ distal to ~~but the~~ at least one infusion opening and spaced from the first electrode a distance that allows an electric field to be generated when a voltage is applied between the first and second electrodes after the catheter has been inserted into the vessel, wherein both the first and second electrodes are located between the first and second balloon portions and the electric field is sufficient in strength to electroporate cells in the vessel.
11. (currently amended) A catheter according to claim 10 further comprising an electrical source connected to the at least one first and at least one second electrodes for applying a voltage between the electrodes.

12. (original) A catheter according to claim 10, wherein the vessel is a blood vessel.
13. (currently amended) A catheter according to claim 10, wherein the at least one first electrode is formed at least in part of biologically inert material.
- 14-15. (canceled)
16. (currently amended) A catheter according to claim 10, wherein the ~~at least one~~ second inflatable balloon portion is near the distal end of the catheter.
17. (currently amended) An electroporation apparatus for introducing a composition into at least one cell in a vessel in a subject comprising:
- a catheter having at least one inflatable balloon portion at a position other than the distal end of the catheter;
 - proximal to the at least one inflatable balloon portion, an infusion opening in the catheter for introducing a composition containing a therapeutic agent into a vessel in a subject;
 - a first electrode on the catheter positioned adjacent to the infusion opening; and
 - a second electrode on the catheter positioned proximal to but spaced from the first electrode a distance that allows an electric field to be generated when a voltage is applied between the first and second electrodes after the catheter has been inserted into the vessel, wherein both the first and second electrodes are located proximal to the at least one balloon portion and the electric field is sufficient in strength to electroporate cells in the vessel.
18. (original) An electroporation apparatus according to claim 17 further comprising an electrical source connected to the first and second electrodes for applying a voltage between the electrodes in an amount sufficient to cause electroporation of at least one cell.
19. (original) An electroporation apparatus according to claim 17, wherein the vessel is a blood vessel.

20. (original) An electroporation apparatus according to claim 17, wherein the first electrode is formed at least in part of biologically inert material.

21-22. (canceled)

23. (original) An electroporation apparatus according to claim 17, wherein the first electrode and the second electrode is each separately selected to be a single electrode or multiple electrodes.

24. (original) An electroporation apparatus according to claim 23, wherein the multiple electrodes are interdigitated electrodes or concentric ring electrodes.

25. (original) An electroporation apparatus according to claim 10, wherein the first electrode and the second electrode is separately selected to be a single electrode or multiple electrodes.

26. (original) An electroporation apparatus according to claim 25, wherein the multiple electrodes are interdigitated electrodes or concentric ring electrodes.

27-28. (canceled)

29. (original) An electroporation apparatus according to claim 1 wherein the electric field strength is about 100 V/cm to about 5 kV/cm.

30. (original) An electroporation apparatus according to claim 1 wherein the voltage is about 10 volts to about 200 volts.

31. (original) An electroporation apparatus according to claim 10 wherein the electric field strength is about 100 V/cm to about 5 kV/cm.

32. (original) An electroporation apparatus according to claim 10 wherein the voltage is about 10 volts to about 200 volts.

33. (original) An electroporation apparatus according to claim 10 wherein the electric field strength is about 100 V/cm to about 5 kV/cm.

34. (original) An electroporation apparatus according to claim 17 wherein the voltage is about 10 volts to about 200 volts.

35. (new) The apparatus of claim 10, wherein said infusion opening is a plurality of infusion openings.

36. (new) An electroporation apparatus comprising:

a catheter having at least one inflatable balloon portion and a guidewire;
proximal to the at least one inflatable balloon portion, at least one infusion opening in the catheter for introducing a composition containing a therapeutic agent into a vessel in a subject;

at least one first electrode on the catheter positioned adjacent to the infusion opening; and

a second electrode disposed on the guidewire such that when the catheter is deployed in a blood vessel and the balloon portion is inflated the second electrode is spaced from the first electrode a distance that allows an electric field to be generated when a voltage is applied between the first and second electrodes after the catheter has been inserted into the vessel, wherein the electric field is sufficient in strength to electroporate cells in the vessel.

37. (new) An electroporation apparatus comprising:

a catheter having at least one inflatable balloon portion;
proximal to the at least one inflatable balloon portion, an infusion opening in the catheter for introducing a composition containing a therapeutic agent into a vessel in a subject;
a first electrode on the catheter positioned adjacent to the infusion opening; and
a second electrode is a patch electrode configured to be placed against a subject's body tissue and spaced from the first electrode a distance that allows an electric field to be generated when a

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voltage is applied between the first and second electrodes after the catheter has been inserted into the vessel, wherein the electric field is sufficient in strength to electroporate cells in the vessel.
